

# Cardinal LOAD CELLS

## SERIES SCA - LOAD CELLS FOR COMPRESSION WEIGHING



- Capacities 22680 kg, 45360 kg, and 54430 kg
- Hermetically sealed (IP68)
- Stainless steel construction
- 9 m integral shielded cable
- 2 year warranty

The heavy capacity series of compression load cells are ideal for multiple load cell compression applications such as motor truck scales, railroad track scales and heavy duty tank weighing systems. These compression load cells are available in 22680 kg, 45360 kg and 54430 kg

Load cells are fabricated from stainless steel to provide the ultimate in protection when caustic, corrosive or wet environments are encountered. Load cells are hermetically sealed for absolute water protection (IP68).

Each load cell is furnished with stainless steel load buttons on each end, and a 9 m integral multiconductor cable secured by a strain relief seal.

### SPECIFICATIONS

#### Mechanical Data

Rated Capacity, (R.C.) $E_{max}$	22680, 45360 & 54430 kg
Minimum Dead Load	250, 500 kg
Safe Load Limit	150% R.C.
Ultimate Load	300% R.C.
Deflection at R.C.	0.33 mm
Spring Element Material	17-4 PH
Net Weight	6 kg

#### Certificate Data

Issuing Body	NTEP	OIML
Certificate Number	89-042A3	R60/1991-DK-97.04
		rev 1
Accuracy Class	III L	C3
Maximum Number of Load		
Cell Intervals, $n_{max}$	10000	3000
Single/Multiple	M	
Humidity Symbol		CH
Minimum Load Cell		
Verification Interval $V_{min}$		
OIML	2.3, 4.5 & 5.4 kg	
NTEP	1.4 & 2.8 kg	

#### Electrical Data

Rated Output	2mV/V
Excitation Voltage, Recommended	10 VDC
Excitation Voltage, Maximum	15 VDC
Cable Length	9m
Terminal Resistance	
Excitation	1150 ± 12 ohms
Signal	1050 ± 10 ohms
Zero Load Output	± 1% R.C.
Insulation Resistance	>5000 megohms at 50 VDC

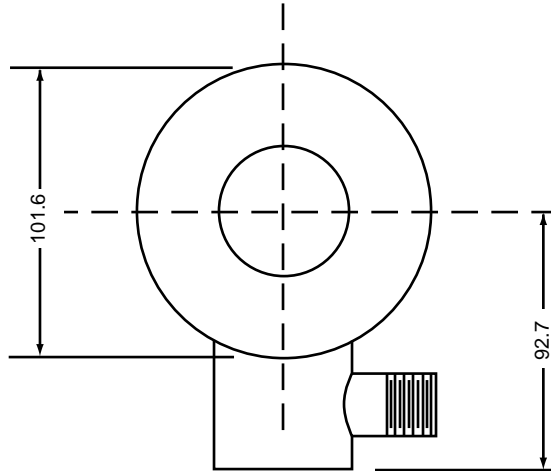
#### Environmental Data

Temperature Compensation	
Range	-10° to +40°C
Operating Temperature Range	-29° to +93°C
Construction & Protection	
Code	CP-67 HU, IP68
Barometric Pressure Effect on Zero Load Output	<1 v (min)/1kPa

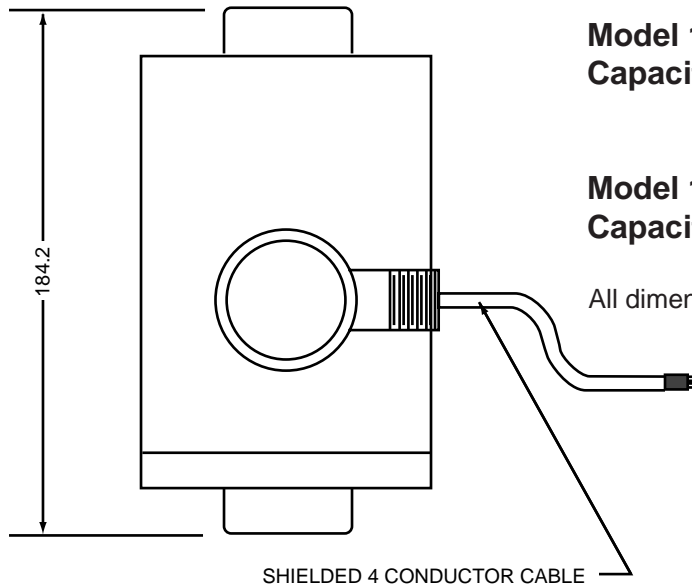
#### Color Code

+ Excitation	Green	- Signal	White
- Excitation	Black	+ Signal	Red

# Cardinal COMPRESSION LOAD CELLS



**Model 50K-SCA**  
Capacity: 22680 kg



**Model 100K-SCA**  
Capacity: 45360 kg

**Model 120K-SCA**  
Capacity: 54430 kg

All dimensions are in mm unless otherwise noted.



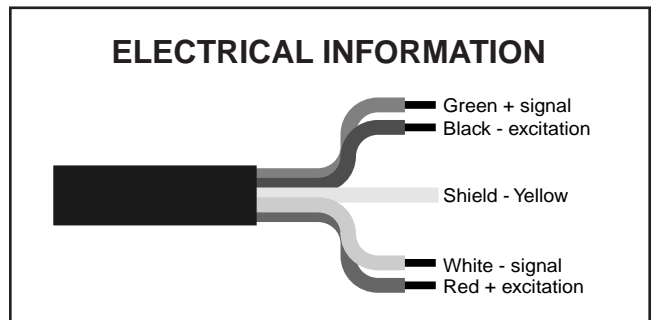
The SCA Series Load Cells meet all requirements of OIML R60 and has been issued OIML certificate no. R60/1991-DK-97.04 rev1.



The SCA Series Load Cells meet all requirements of Handbook 44, issued by the National Institute of Standards and Technology and have been issued the NTEP Certificate of Conformance No. 89-042 A3.



Cardinal Scale reserves the right to improve, enhance and modify features and specifications without prior notice.



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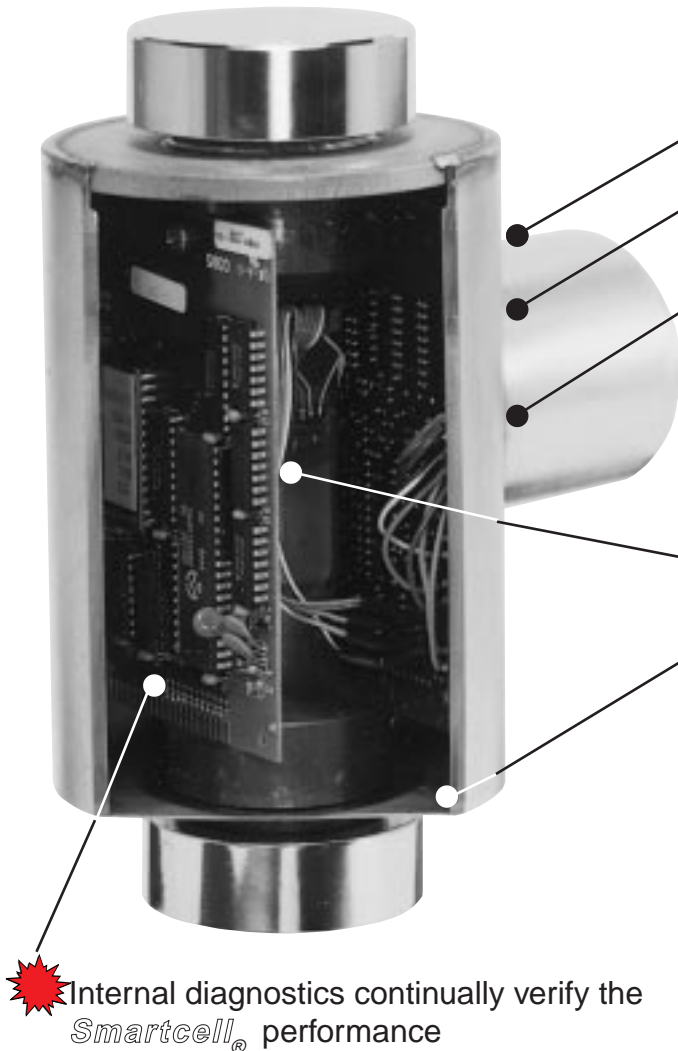
203 East Daugherty  
P.O. Box 151  
Webb City, Mo 64870

Phone: 417•673•4631  
Fax: 417•673•5001  
www.cardinalscales.com

# Cardinal LOAD CELLS

## SERIES "SCD" - COMPRESSION LOAD CELLS

A digital compression load cell with a full set of features make Cardinal's *Smartcell*® a smart buy!



- 100 percent stainless steel construction
- Proprietary digital output eliminates errors caused by electrical noise
- Surge protection board provides built-in protection from lightning-induced electrical transients
- Microcomputer based circuitry automatically compensates for temperature-induced error
- Hermetically sealed enclosure
- Available in 22600 kg and 45300 kg capacities

When your application requires the noise immunity and performance of a digital load cell, make the smart choice, Cardinal's digital *Smartcell*®. The *Smartcell*® contains a microcomputer and digital circuitry that automatically compensates for non-linearity and temperature-induced error. The *Smartcell*® digital output is unaffected by electrical noise. Diagnostic features verify that the *Smartcell*® is performing properly and quickly identify a problem, should one occur.



REGISTERED 9001  
**ISO**

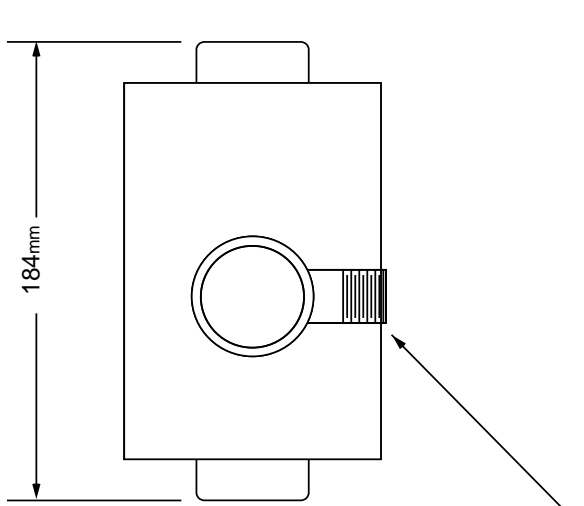


This load cell meets all requirements of Handbook 44, issued by the National Institute of Standards and Technology and have been issued the NTEP Certificate of Conformance No. 89-071.

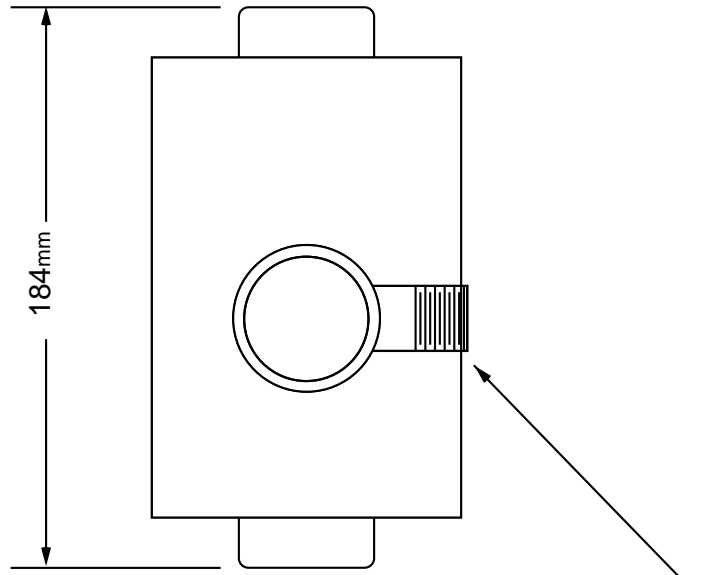


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# Cardinal SERIES "SCD" COMPRESSION LOAD CELLS



Shielded 4 conductor cable with connector  
**Model 50K-SCD**  
 Capacity: 22600 kg  
 45300 kg



Shielded 4 conductor cable with connector

## SPECIFICATIONS

### Mechanical Data

Rated Capacity, (R.C.) $E_{max}$ .....	22600 & 45300 kg
Minimum Dead Load .....	230 & 450 kg
Safe Load Limit .....	150% R.C.
Ultimate Load .....	300% R.C.
Deflection at R.C. ....	0.33 mm
Spring Element Material .....	17-4 PH
Net Weight .....	6 kg

### Certificate Data

Issuing Body .....	NTEP
Certificate Number .....	89-071
Accuracy Class .....	III L
Maximum Number of Load Cell	
Intervals, $n_{max}$ .....	10000
Single/Multiple .....	M
Minimum Load Cell Verification	
Interval $V_{min}$ .....	2.3 kg & 4.5 kg

### Electrical Data

Rated Output .....	Digital, proprietary
Excitation Voltage,	
Recommended .....	24 VDC $\pm$ 0.5 VDC
Excitation Voltage,	
Maximum .....	24 VDC $\pm$ 0.5 VDC
Cable Length .....	9 m
Insulation Resistance .....	>5000 megohms at 50 VDC

### Environmental Data

Temperature Compensation	
Range .....	-10° to +40°C
Operating Temperature Range ..	-29° to +93°C
Construction & Protection	
Code .....	CP-87 HU, IP68
Barometric Pressure Effect	
on Zero Load Output .....	<1 v (min)/1kPa

### Color Code

+ Excitation .....	Red	T x D (data out) .....	Green
Common .....	Black	R x D (data in) .....	White

Each load cell is furnished with stainless steel load buttons on each end and a load cell cable connector.

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